

'Food-based approaches to body fat reduction'

Unilever-sponsored symposium



European Congress on Obesity, Geneva Palexpo, Geneva

Chairman: *Dr Margaret Ashwell OBE*
Ashwell Associates (Europe) Ltd, Ashwell, UK

Margaret Ashwell, well known for the Ashwell Shape Chart, opened the symposium and introduced the speakers. Mike Gibney spoke about body fat and beauty, and referred to beauty being too narrowly defined in terms of physical attributes. Arne Astrup showed some of the promising results recently obtained from the Diogenes project; the main EU funded project in the area of weight management. Dave Mela from Unilever gave an overview of the possible options for weight management with foods/ingredients. He showed some recent examples of innovation projects and he indicated the need for underpinning evidence for claims. Gert Meijer, also from Unilever, showcased Unilever's successes in enhancing the nutritional quality of its food portfolio and support of the Choices initiative that offers consumers a simple front-of-pack logo to make the healthy choice, an easy choice.

Body fat in health and beauty

Professor Michael Gibney
UCD Institute of Food and Health
University College Dublin
Ireland

Prof. Mike Gibney from the Institute of Food and Health, University College, Dublin noted in his talk that beauty is in the eyes of the beholder.

Need to broaden our definition of body fat in health and beauty

He presented data from a global survey on attitudes of women to beauty initiated by Dove, which revealed dissatisfaction with the current narrow definition of beauty in terms of physical attributes. Most women wanted to change at least one attribute of their appearance, and body weight was the attribute most wanted to change. About 1 in 5 women had abusive dietary practices such as gorging and vomiting.

Perceptions of vanity differ

Globally, there are major differences in the acceptability of different forms of body shape. In the Saharawi women, fattening is the norm for women in preparation for marriage. In the fashion sector, there is increasing pressure to avoid the use of ultra thin models.

Fat and fit vs lean and lazy?

Fatness and fitness interact to influence the impact of body weight on health. *Fit fat* subjects may be healthier than *lean lazy* subjects.

Role of nutrition in health & beauty

Nutrition can play a role in vanity through its effects on skin, hair quality, vision and perhaps baldness.

Whilst the emphasis on beauty and health is often focused on fat, leg length which is a measure of stature is a major predictor of cardiovascular disease. Equally, body shape greatly influences the adverse effects of fat, through android or gynoid forms of obesity.

The prejudice against obesity is powerful, ubiquitous and begins in childhood. As nutritionists we need to be aware of perceptions of health and beauty in our society.

EU Project Diogenes: Protein and carbohydrates in weight management

Professor Arne Astrup
Head of the Department of Human Nutrition
Faculty of Life Sciences
University of Copenhagen
Denmark

Prof. Arne Astrup introduced the "Diet, Obesity and Genes" (DiOGenes) project which provides a unique opportunity to examine interactions between dietary components and genetic and behavioural factors associated with changes in body weight and body composition. This project is supported by the European Community and is a collaboration of many academic centres, plus a number of technology companies and European food manufacturers. It examines the interactions between dietary components and genetic and behavioural factors (consumer attitudes and behaviour), and potential new routes to enhance weight control with foods.

The biggest pan-European effort so far directed at the multifaceted relationship of diet and obesity

The primary focus of Diogenes is a dietary intervention study conducted in a large population of families across eight European centres. Following a period of weight loss, subjects were placed on diets comprised of combinations of lower or higher protein (LP or HP) and lower or higher Glycaemic Index (LGI/HGI) for 6-12 months, during which a large number of physiological and behavioural measures were collected. At all of the test centres, subjects were given specific dietary advice for six months. At two centres dietary advice was preceded by six months of a 'supermarket' model which provided subjects with foods of known, controlled composition.

Results from the two supermarket centres after six months clearly showed that weight regain was significantly reduced by the higher protein intakes, but not affected by the differences in Glycaemic Index.

Astrup concluded that these first results indicate that increased protein content decreased weight regain after weight loss, whereas the Glycaemic Index had no effect. The feasibility of these dietary changes needs to be confirmed by data from the other centres using a more free-living intervention approach.

Please also see:
Hot Topic Poster:
HT:PS.02

Weight loss maintenance on ad libitum diets varying in protein content and glycemic index: first results of the DIOGENES highly-controlled shop-based intervention.

van Baak, MA, Larsen, TM, Jebb, SA, Kafatos, A, Pfeiffer, A, Martinez, JA, Handjiev, S, Kunesova, M, Astrup, A, Saris, WHM

'Food-based approaches to body fat reduction' Unilever-sponsored symposium

European Congress on Obesity, Geneva Palexpo, Geneva



On the horizon: New food ingredients and approaches to fat reduction

Dr David Mela
Senior Scientist
Unilever Food and Health Research Institute
The Netherlands

There are a large number of promising routes for industrial foods/ingredients with benefits for body fat reduction

Mela noted that foods may help in body fat reduction through three possible routes:

- 1) Reduce voluntary energy intake (appetite)
- 2) Interfere with energy uptake (absorption)
- 3) Alter energy metabolism (substrate oxidation or body composition)

There is particularly increasing interest in food-based enhancement of appetite control. This is usually directed at gastrointestinal mechanisms, but targets for foods and ingredients could potentially range from sensory stimulation to direct hormonal or even neural targeting.

Several food components may also have specific effects on pathways of energy metabolism. An example of this is a growing literature showing benefits of long-term consumption of green tea for fat mass loss. This has recently been confirmed in a study carried out by Unilever, which also suggests that the effect of green tea could be preferentially directed toward loss of fat from visceral areas.

The identification, technology, and substantiation of body fat reduction through foods demands a high level of R&D commitment and capability

Future advances in appetite control through foods are expected from research approaches that integrate expertise in food structures, physiology and nutrition, and apply a wide variety of research tools and models. There is also increasing interest in potential food-based influences on body composition and fat distribution; however there are still considerable gaps in knowledge about potential mechanisms and targets.

There is a need to apply high standards for claim support

Mela gave examples of how a search of the scientific or consumer literature turns up a huge array of 'functional' agents making weight management claims. But the quality and quantity of supporting evidence for these varies greatly, as does their actual feasibility for food use. Even for ingredients that can be shown to be effective, potential applications in foods will be influenced by e.g., supply chain, processing, food quality, regulatory, consumer and marketing considerations.

Making effective choices the easy and healthy choices

Dr Gert Meijer
VP Nutrition and Health
Head, Unilever Nutrition Network
Unilever R&D Vlaardingen
The Netherlands

With the current obesity epidemic and other rising nutrition-related diseases, the need and demand for effective programmes that promote healthy food choices is more urgent than ever. According to Meijer, the food industry can and should have a leading role in making the healthy choice the easy choice, providing solutions for every day life.

One way to do this is by changing the product composition, without compromising on taste, pleasure and convenience. Various industries, including Unilever, Kraft and Nestle have taken several actions to optimise product composition which has resulted in significant reductions of saturated and/or trans fat, sugar and sodium in their products.

Another way of making the healthy choice an easy choice is by improving consumer information. For example, food companies have signed EU and US pledges on marketing and advertising and there is increased use of simple icons front-of-pack. Unilever is participating in Choices; a global programme open to any company in food manufacturing, retail and catering. Another example is the 'Better for You' icon that Kraft is featuring on its products.

Meijer stressed that ingredients with functional benefits should only be used in the more healthy products. Nevertheless, the goal is not to make all foods healthy. Consumers should have a choice and industry should make it easier for them to make a healthy one.

Although industry should take the lead in this, partnerships/collaboration with governments and non-governmental organisations are essential in order to achieve a desired effect on dietary intake and health.

The role of the food industry in combating obesity

The food industry can and should play a leading role in making effective choices the easy and healthy choices. Examples include:

- Providing solutions for everyday life.
- Education – starting internally.
- Reviewing their own portfolio so that the food industry can be credible in the external debate.
- Providing clear information about all products (labelling, claims and advertising/marketing).
- Partnering with governments and non-governmental organisations.